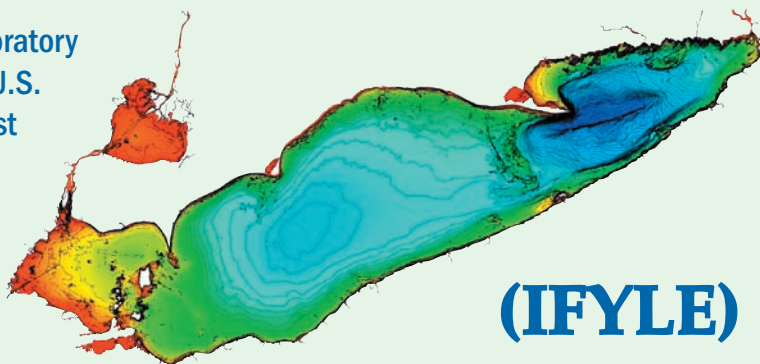


2005 International Field Year on Lake Erie

NOAA's Great Lakes Environmental Research Laboratory (GLERL) in collaboration with researchers in the U.S. and Canada have initiated one of the largest, most comprehensive Lake Erie research field programs ever conducted. The project - the International Field Years on Lake Erie (IFYLE) - will begin in May 2005 with a series of ship cruises and moorings that will last through October.



Why Lake Erie?

The Lake Erie ecosystem now faces wide and varied threats to its health and integrity, including harmful algal blooms (HABs) in the west basin, recurring low oxygen episodes ("dead zones") in the central basin, and invasive species. Each of these threats has the potential to disrupt normal food web and ecosystem processes, and in turn, jeopardize the ability of Lake Erie to provide valued ecosystem services (e.g., recreational and commercial fish production, safe drinking water, and clean, bacteria-free beaches).

What is Being Done?

Clearly, these issues require a coordinated lake-wide multidisciplinary approach. In response, NOAA GLERL is building upon previous planning efforts to bring U.S. and Canadian Lake Erie agencies and researchers together to better understand each of these threats and their impact on the Lake Erie ecosystem. The primary goal of this research is to develop useful products, such as HAB and fish production **forecasting tools** to help guide Lake Erie resource management and future planning.

"The development of ecological forecasting capabilities, as well as deployment of a real-time observing system network across Lake Erie, are right in step with NOAA's strategic goals, and we are eager to use such new approaches and technology to gain valuable insight into the dynamics of the Lake Erie ecosystem."

~ Dr. Stephen Brandt, Director, GLERL

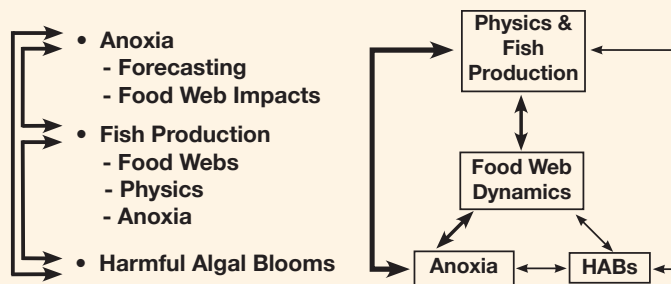
www.glerl.noaa.gov

What are IFYLE's Key Goals?

The science priorities are based upon years of planning by the Lake Erie Millennium Network and by NOAA GLERL. The primary goals of this research are to (1) examine the causes and consequences of low-oxygen events, (2) evaluate how lake physics and food webs affect fish production, and (3) examine HABs. All three objectives are connected through Lake Erie's food web. The ultimate application of this research is to develop forecasts of anoxia, HABs and fish production that can aid decision-making processes. Some more specific goals include:

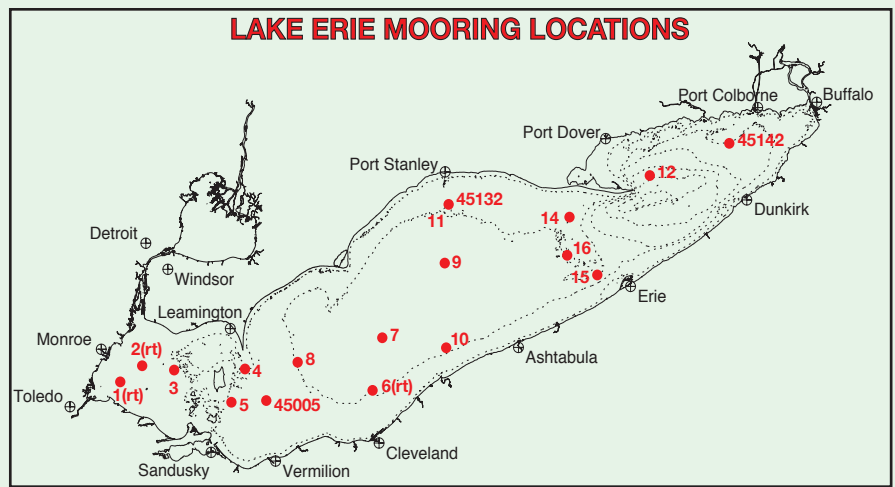
- ◆ Develop models to characterize and understand the magnitude, timing, and extent of the "dead zone", as well as HABs formations, in Lake Erie.
- ◆ Build/refine ecosystem forecasting tools to describe/predict habitat fields (e.g., temperature, oxygen, water clarity) that can influence fish production and HAB formation.
- ◆ Determine how hypoxia, exotic species, and HABs influence the distribution and productivity of native species, fisheries production, and biodiversity.

Primary Research Foci



When and Where Will the Research be Conducted?

Research will be conducted throughout each of Lake Erie's three basins (eastern, central, and western) during May through October 2005, with the hope that a similar effort will be carried out in 2006 and 2007, subject to availability of ship time and other resources. At least 10 research vessels will be involved and 15 moorings deployed.



How is IFYLE Different from Other Research Programs?

IFYLE is unique in several ways. First, it is believed to be the largest, most comprehensive, multidisciplinary research effort ever conducted on Lake Erie, involving numerous U.S. and Canadian scientists. Second, IFYLE is focused not only on understanding the ecosystem, but ultimately on applying this scientific understanding to develop tools and products useful to resource managers. Third, the research explores both why a dead zone forms in Lake Erie and how it influences the ecology and productivity of the system (including fish).

How Will IFYLE be Supported?

Most of this research will be done by redirecting current efforts. Other major funding sources include:

- ◆ \$450,000 from NOAA Ship Support for chartering large research vessels including 45 days on EPA's 180-foot R/V Lake Guardian
- ◆ \$450,000 in cost match from EPA's Great Lakes National Program Office, providing an extra 45 days of ship time on the R/V Lake Guardian.
- ◆ \$385,000 in NOAA IOOS funds for expanding GLERL's real-time observation network in Lake Erie.
- ◆ \$250,000 from the National Sea Grant College Program office, and \$25,000 each from the Ohio and New York Sea Grant College programs, to fund competitive university collaborative research.
- ◆ Support is also being provided by GLERL, that includes > 170 days of R/V *Laurentian* and R/V *Cyclops* availability on Lake Erie, research scientists, and student interns for the project.

Funding will be leveraged with partnerships providing in-kind collaboration such as access to research vessels and historical and newly collected data.

Who is Involved?

Partners involved include Environment Canada (Canadian Centre for Inland Waters), Ohio Stone Laboratory, Ontario Ministry of Natural Resources, Ohio Department of Natural Resources, Michigan Department of Natural Resources, Pennsylvania Fish & Boat Commission, New York State Department of Environmental Conservation, and U.S. Geological Survey have also partnered with the effort. The project is working closely with and coordinating through the Lake Erie Lakewide Management Plan (LaMP) the Lake Erie Millennium Network, the Lake Erie Committee of the Great Lakes Fishery Commission, the IJC Council of Great Lakes Research Managers, and the Regional Working Group of the Great Lakes Interagency Task Force (Executive Order 5/18/2004).



For more information about the IFYLE program please visit:

<http://www.glerl.noaa.gov/res/Programs/erie/>

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